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ABSTRACT

An approach to improve the test-taking abilities of minority students, and especially college students, are discussed. The problem of lower performance of minorities on norm-referenced, standardized test is also considered. One approach to help improve students' scores on standardized tests is test-taking instruction and practice on simulated tests. Using content from students' courses on the simulated tests may help make the material meaningful and avoid having faculty direct teaching to any externally-developed standardized test. The simulated exams might use formats or types of items similar to those used on standardized tests, such as the Graduate Record Exam. Exposure to and practice on well-developed multiple choice items would help students in test-taking competency and in demonstrating their content knowledge. Time limits could also be used to help students prepare for test situations. These tests could also be used for students' self-assessment of mastery of course material, and for review purposes, as well as for reinforcement of learned content and for peer teaching activities. This approach should promote increased learning and higher academic performance. A coordinator might be used to teach and reinforce effective test-taking skills, as well as to direct the program. (SW)

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ENHANCING SUCCESS IN A TEST

PERFORMANCE ORIENTED MERITOCRACY

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ENHANCING SUCCESS IN A TEST

PERFORMANCE ORIENTED MERITOCRACY

Henry T. Frierson, Jr., Ph.D.

Astin[1] described our society, particularly the higher education system, as being a meritocracy. He also contends that meritocratic practices pose the most serious obstacle to the educational progress of disadvantaged minorities. In a meritocratic society, rewards are allocated on the basis of performance and the greatest rewards go to those who perform best.[2] Competition plays a central role in our system, and opportunities for higher education and social advancement are often linked to performance on norm-referenced exams which are based on how individuals perform in comparison to others taking the same test. That is an example of competition in the clearest sense. Test-taking abilities can influence a student's educational and career choices, particularly as related to the competitive exams that prevail in almost every level of education in this country.

Students from minority groups which have historically experienced generations of discrimination, prejudice, racism, and other forms of social injustice in addition to educational disadvantages, are generally plagued by lower performances on norm-referenced standardized tests. This should not be surprising given the barriers students from those groups must often overcome. Nevertheless, success on those standardized tests is often a key to greater

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1 Astin, A.W. Minorities in Higher Education. San Francisco: Jossey-Bass, Inc., 1982.

2 Young, M. The Rise of the Meritocracy, 1870-2033. London: Thames & Hudson, 1958.

educational and professional opportunities and advancement. Because of those historical factors and the competitive orientation of traditional norm-referenced standardized tests, minority students are frequently at a gross disadvantage. In all likelihood, however, meritocracy in this country will continue to flourish despite the imposed and often ignored handicaps of some of its members.

Because of the inequities they face within our society, minority students are at a distinct disadvantage. If those students are to function and succeed in proportions greater than we are currently witnessing, it is imperative they be given full opportunities to attain skills to facilitate their progress. Unquestionably, an important goal of education should be to establish environments where students can become effective learners and thinkers. However, in addition to exposing students to environments that nurture the development of sound thinking and learning skills, students should also be assured of having opportunities to learn how to effectively apply acquired knowledge on exams measuring both achievement and aptitude. This is an area where minority students have seemingly suffered.

In light of increasing concern over "standards," effective test-taking skills have become even more crucial for minority students. Acceptable standardized test performance is crucial for gaining access to advanced education programs. Thus it is critical that capable minority students acquire skills to meet current rising examination performance standards. The importance and impact of test performance starts at the elementary school level and extends to entrance into graduate and professional schools, and in many cases for the professions, through professional schools and beyond. A good example is the

medical profession, where students must take a standardized entrance exam in order to enter medical school. Once in school, they must perform satisfactorily on tests in order to be promoted and eventually graduate. Then the students must take standardized tests to: become licensed and practice medicine; become board-certified in their specialty; become board-certified in a subspecialty if they choose that option; and in some cases, satisfactory performance on standardized exams is required for relicensure (as in the specialty of family medicine, and it appears that relicensure examination requirements will occur in other specialties as well).

Intervention

Although the problems related to the generally lower standardized test scores of minority students are myriad, the supposition here is that one way their scores can be improved is through programmatic efforts. From years of assisting minority students to become more effective test-takers, I have gained a sense that many minority students are not regularly exposed to objective tests that constrained them to more fully develop the problem-solving test-taking skills needed for manipulating technically well-constructed multiple-choice tests. Nor are those students often aware of the necessity to become effective test takers and the implications involved. Because of a less than optimal test-taking skills, minority students often do not perform at levels reflecting their true knowledge of the content associated with the tests. Studies have shown that students can improve their test-taking skills and significantly increase their performance on standardized exams through effective intervention procedures. For instance, early studies by Pallone in 1961 and Marron in 1965, found SAT-verbal gain scores of 98 and 58 points, respectively, associated with intervention.[3-4] Two studies

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3 Marron, J.E. Preparatory school test preparation: Special test preparation, its effect on College Board scores and the relationship of affected scores to subsequent college performance. West Point, N.Y.: United States Military Academy, 1965.

4 Pallone, M.J. Effects of short- and long-term developmental reading courses upon SAT verbal scores. Personnel and Guidance Journal, 39:654-657, 1961.

of intervention treatment employed by this author showed significant results on subtests of the National Board of Medical Examiners exam (NBME) Part 1 and the Medical College Admission Test (MCAT).[5-6] In the NBME study, the group receiving intervention relative to effective test-taking had a mean score 80 points higher than a comparison group. For the MCAT study, an average gain score of 91 points on the science subtest was observed. All four studies reported very significant results associated with intervention efforts, and the latter two studies involved only minority students.

Although studies have shown that test-taking skills or test-performance intervention enhance performance, needed are approaches to incorporate intervention programs in more educational settings. Procedures -- like regularly providing exposure to well constructed multiple-choice items, teaching effective test-taking approaches, and helping students diagnose and correct problems of test-taking -- have been identified that enhance standardized test performances. Similar approaches can be employed systematically for large numbers of students to help insure that their test scores on important exams more accurately reflect levels of knowledge. Thus when students have learned the content, their performances should accurately reflect their acquired knowledge, and inadequate test-taking skills should not be a factor.

At the college level, although efforts should occur earlier, a critical area where test performance intervention could be particularly beneficial for minority students is during the early portion of the undergraduate program, preferably the freshman or at least sophomore year. In the early stages of college, it is important to develop skills that will be of subsequent use in

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5 Frierson, H.T. The impact of test intervention on minority students' performance on standardized examinations. Paper presented at the Association of American Medical Colleges Conference, San Francisco, CA, 1976.

6 Frierson, H.T. Test-taking intervention: Its effects on minority students' MCAT scores. ERIC ED 206:687, 1982.

enhancing performance and to build a base for establishing a strong academic record. Good test-taking skills, of course, will also be valuable for insuring that students attain scores and related grades reflecting their knowledge levels. If implemented, the initial intervention efforts outlined here will likely have a positive impact on minority students' test and concommitant academic performance.

Suggested Programmatic Efforts

Clearly, efforts to enhance the test-taking abilities of minority students must be undertaken. Although thrusts should ideally occur at all educational levels, particularly the earlier years, discussion here will focus on college students.

A demonstrated successful approach for increasing standardized test scores of undergraduate college and professional students is effective test-taking instruction and students' development and practice of those skills on similated tests.[7-8] The major objectives of instruction practice components would be: to emphasize the value of having confidence in one's level of knowledge; to reduce anxiety and to increase efficiency by employing a systematic approach that allows the student to feel more in control during test situations; to decrease unwarranted errors by avoiding misreading and misinterpreting items; and to generally increase accuracy. The practice aspect allows the students to get sufficient practice (reinforcement and feedback) on simulated tests in those areas that were major topics of instruction. As a result, students begin to incorporate more effective approaches into their own test-taking repetoire.

A key feature of the simulated tests is the use of content which students

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7 Frierson, H.T. A comparison of two methods designed to increase MCAT performance. Health Pathways 2, No. 3, 1979.

8 Frierson, H.T. The effects of test performance intervention on cognitive performances on an allied health professional certifying examination. Paper presented at Eastern Educational Research Association Annual Meeting, Norfolk, VA, 1980.

are actually studying. Thus, the students more readily perceive those tests' content as being meaningful and worthy of attention. This approach, usually after a six-week period, has been associated with increased standardized test performances.

A recommended programmatic approach would use a coordinator and closely involve teaching faculty. The coordinator could be the person responsible for actively teaching or reinforcing effective test-taking skills as well as coordinating or directing the program itself.

In an example, faculty would select multiple-choice items from various sources reflecting the content taught in their courses. Constructed, simulated or practice tests would follow the content sequence of each course. At least two forms of each test should be generated to serve as possible pre-test/post-test measures for examining both the effects of increased knowledge and improved test-taking skills. Those measures would be used for assessment purposes only. Under this design, each student participating in the program would be introduced to effective test-taking procedures and given ample opportunity to practice and develop skills in effective test-taking. For each course associated with the program, students would be given opportunities to practice and sharpen their test-taking skills while regularly receiving feedback on both knowledge of content and test-taking techniques.

A crucial point: faculty should not feel constrained to "teach to" any externally developed standardized test. Thus faculty should continue to focus, after careful assessment, on areas they believe important since those areas will, in all likelihood, provide students with essential foundations needed for future academic success. Overall, this program would allow faculty to: more effectively assess desired content learning; more thoroughly assess student progress; and

more accurately evaluate teaching effectiveness. This can occur by incorporating simulated tests followed by subsequent feedback, along with the accompanying student-teacher interaction.

Since a long-range objective is to enhance students' performance on standardized exams, simulated exams with formats or item types similar to the MCAT, DAT, GRE and other standardized tests could be used. When using simulated exams, time limits could also be applied for helping students to efficiently apply proper time management procedures for test situations.

An equally important objective is also to facilitate achievement in the classroom. Since the simulated exams would be developed by faculty using item content closely related to course content, students could not only use the tests to practice and enhance their test-taking skills but, importantly, also use the tests as means of self-assessment for identifying strong and weak areas of learned content. Students could then strengthen themselves in needed areas before being formally evaluated and graded. As the students identify their own weaknesses prior to formal course exams, they could take necessary steps early to correct identified deficiencies. The simulated exams could be further used for review purposes and reinforce previously learned information. Moreover, a setting, using the simulated exams as vehicles, can be established where peer teaching or cooperative sharing of information can readily occur, thus encouraging an active and productive learning atmosphere. An expected result would be increased academic performance for participants in courses with faculty involved in a test-performance intervention program. Participating students should also become more academically self-directed, thus further preparing them for graduate or professional school, or at the least, subsequent life-long learning activities.

Academic achievement provides students with the necessary knowledge base for further academic progress and also increases the probability of a strong standardized test performance. High academic achievement, of course, also enhances students' chances of gaining access to graduate and professional programs. The facilitation of learning should be the primary concern of any educational program and, in this instance, the purpose of test-performance intervention as described is to positively affect learning as well as to improve test performance.

Conclusion

With a concerted effort undertaken to enhance the chances of success in a meritocratic system by providing minority students with effective test-taking skills, the approach should also provide for increased learning and higher academic performances. However, at the college level at least, certain assumptions must be made in order to insure the success of such a program: 1) the participating students will perceive that learning is their own responsibility and thus use the simulated exams appropriately; 2) the faculty will be cooperative in selecting items that coincide with their course content and thus could be arranged in exam formats; and 3) there will be clear communication between all involved parties (students, faculty, program coordinator, and related staff).

After participating in a long-range test-performance intervention program, students should become adept at demonstrating their knowledge and therefore quite facile in taking multiple-choice tests and, as a result, standardized exams. Exposure to and practice on well-developed multiple choice items would allow the students to acquire appropriate skills for making accurate responses

and performing at levels commensurate with their degree of knowledge in those areas studied. Results should be increased performance by those students who fully participate in the program, not only on standardized tests, but in academic achievement as well. Consequently, participants should demonstrate more competitive scores on standardized exams such as the GRE, MCAT, DAT, LSAT and the like. Furthermore, if those same students take advantage of all the possibilities of the test-performance intervention program, e.g., self-assessment, faculty contact, peer teaching, and review of content, their academic achievements should be significantly enhanced. Widely implemented and effective programs as described would show both increased standardized exam scores and academic achievement. As a result, the number of motivated and confident minority students entering advanced graduate and professional education programs should increase considerably.

The primary purpose of education is to develop and increase competence. If students have acquired the necessary competence, they should also be able to demonstrate it, regardless of how that competence is assessed. Assuring that students have sufficient means to demonstrate and also enhance their abilities would afford them a better chance of fully reaping rewards associated with achieving within a meritocratic system.

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USES OF SIMULATED EXAMS IN TEST INTERVENTION

PERFORMANCE AND STUDENT LEARNING

Henry T. Frierson, Jr., Ph.D.

1. Practice of effective test-taking techniques
   a. Reinforces effective test-taking
   b. Helps identify detrimental test-taking practices
   c. Allows the incorporation of effective approaches to test-taking
2. Self-assessment:
   a. Allows individuals to determine their areas of strength and weakness
   b. Provides time to rectify deficits before an actual formal exam is taken through:
      1. Further but more efficient studying
      2. Contact faculty to have concepts or principles clarified or explained that the student has identified as being unclear or troublesome
3. Review:
   a. Provides a review of previously covered material
   b. Initiates discussion on concepts and principles that are of concern or interest to learner
4. Reinforcement of learned content:
   a. Feedback on items allows student to determine how effectively material was learned

b. The process of thinking through problems associated with items increases the chances of the associated concepts and principles being retained

c. The process of answering questions on learned material strengthens the probability that the material will be retained for a longer period

5. Uses as a study guide:

a. Provides directions for areas in need of further or more concentrated study

b. Allows individuals to identify content that is fairly well learned and thus devote time to more deserving areas

6. Peer teaching activities:

a. Allows the use of peers as learning resources

b. Encourages all participants to be involved

c. Removes the feeling that one has to compete

d. Alleviates the fear of showing one's lack of content knowledge areas once student-student rapport has been established

e. Lends itself to a more efficient study group approach since the focus is usually constrained to specific areas